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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/994,049

11/27/2001

Robert Frigg

8932-573

1188

20582

7590

05/16/2003

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EXAMINER

ROBERT, EDUARDO C

ART UNIT

PAPER NUMBER

3732

DATE MAILED: 05/16/2003

9

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/994,049

Applicant(s)

FRIGG ET AL.

Examiner

Eduardo C. Robert

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) 21-23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 November 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the embodiment wherein the internal thread tapers radially inward with respect to the central axis, as per claims 11, 18, and 20, must be shown or the feature(s) canceled from the claim(s). Also, the embodiment wherein the screw head has external thread taper at an angle substantially equal to the internal thread taper, as per claims 13 and 20, must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Any proposal by the applicant for amendment of the drawings to cure defects must consist of two parts:

- a) A separate letter to the Draftsman in accordance with MPEP § 608.02(r); and
- b) A print or pen-and-ink sketch showing changes in red ink in accordance with MPEP § 608.02(v).

IMPORTANT NOTE: The filing of new formal drawings to correct the noted defect may be deferred until the application is allowed by the examiner, but the print or pen-and-ink sketch with proposed corrections shown in red ink is required in response to this Office Action, and may not be deferred.

Claim Objections

Claims 1-15 and 21-23 are objected to because of the following informalities:

In claim 1, line 4, "surfaces" should be changed to -- surface --.

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Claim 21 is an improper dependent claim because it refers to itself and thus has been withdrawn from further consideration. Claims 22 and 23 depend from claim 21, therefore they have been withdrawn from further consideration.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 16-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim 16, line 11, "the protrusion" lacks a prior antecedent.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-3, 5-10, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Klaue, et al. (Reference "AC" on PTO-1449).

Klaue, et al. disclose a system comprising a bone plate 420 and a bone screw 415. The bone plate comprises an upper surface 424, a bone-contacting surface 423, a plurality of holes 421 extending through the upper and bone-contacting surface. The holes are dimensioned and

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configured to receive the bone screw 415. At least one of the holes 421 includes an annular protrusion 401 disposed on the bone-contacting surface and at least surrounding the hole (see Figure 8B). The bone plate defines a nominal plate thickness in regions between the holes and the protrusion 401 defines an increased plate thickness that is greater than the nominal plate thickness (see Figure 9). It is suggested in Figure 9 that the increased plate thickness is about 1.5 to about 2 times greater than the nominal plate thickness. The protrusion minimizes contact between the bone-contacting surface and a bone (see Figure 9 and col. 5, lines 37-40). The hole defines a central axis and the protrusion 401 tapers radially inward with respect to the central axis in a direction from the upper surface 424 toward the bone-contacting surface. The bone plate also includes an indentation in the upper surface 424 opposite from the protrusion 401 (see Figure 9). The indentation is substantially concentric with the protrusion. Figure 9 suggests that the protrusion tapers radially inward and defines a taper angle of about 40° to about 100°. The hole is provided with internal threads. The bone plate defines a longitudinal axis and the plurality of holes are spaced apart along the longitudinal axis.

Applicant is reminded that an anticipation under 35 U.S.C. 102(b) or 102(e) is established when a single prior art reference discloses, either expressly or under principles of inherency, each and every element of a claimed invention. *RCA Corp. v. Applied Digital Data System, Inc.*, 730 F.2d 1440, 221 USPQ 385 (Fed. Cir. 1984). Furthermore, it is well settled that the law of anticipation does not require that the reference teach what appellant is teaching or has disclosed, but only that the claims on appeal “read on” something disclosed in the reference, i.e. all limitation of the claims are found in the reference. *Kalman v. Kimberly Clark Corp.*, 713 F.2d 760, 218 USPQ 781 (Fed. Cir. 1083). Moreover, it is not necessary for the applied reference to

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expressly disclose or describe a particular element or limitation of a rejected claim word for word as in the rejected claim so long as the reference inherently discloses that element or limitation. *Standard Havens Products Inc. v. Gencor Industries Inc.*, 953 F.2d 1360, 21 USPQ 2d. 1321 (Fed. Cir. 1991).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Klaue, et al. (Reference "AC" on PTO-1449).

Klaue, et al. disclose the claimed invention except for the nominal thickness being about 1 mm and the protrusion extension from the bone-contacting surface being by about 0.8 mm. It would have been obvious to one having ordinary skill in the art at the time the invention was made to construct the plate of Klaue, et al. with the nominal thickness being about 1mm and the extension of the protrusion from the bone-contacting surface being about 0.8 mm, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Claims 11-14 and 18-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klaue, et al. (Reference "AC" on PTO-1449) in view of Frigg, et al. (U.S. Patent 6,206,881).

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Klaue, et al. disclose the claimed invention except for the threaded holes being tapered radially inward and the screw head having threads complementing with the threaded taper holes. Frigg, et al. disclose a bone plate with threaded holes and bone screws with heads (see Figure 1 and 2), wherein the holes are made taper and the heads of the bone screws are made taper and with threads to complement with the threaded taper hole in order to ensure optimal locking between the bone screws and bone plate when the bone screws are used in affixing the bone plate (see col. 1, lines 18-19). It would have been obvious to one skill in the art at the time the invention was made to construct the system of Klaue, et al. with the holes of the bone plate being tapered and the head screws complementing the tapered holes in view of Frigg, et al., in order to ensure optimal locking between the bone screws and bone plate. With regard to claims 12, 14, 18, and 19, it would have been further obvious to one having ordinary skill in the art at the time the invention was made to construct the system of the combination of Klaue, et al. as modified by Frigg, et al. with the tapered hole having an angle of about 10° to about 30° and the external tapered screw head having a taper angle of about 20° , since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See PTO- 892 for cited references of interest.

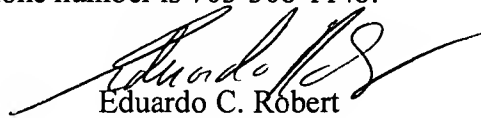
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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eduardo C. Robert whose telephone number is 703-305-7333.

The examiner can normally be reached on Monday-Friday, 9:30am-6:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin P. Shaver can be reached on 703-308-2582. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1148.



Eduardo C. Robert
Primary Examiner
Art Unit 3732

E.C. Robert
May 14, 2003